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PATENT

PROTEINS THAT INTERACT WITH  
 $\beta$ TrCP

PRIORITY

[0001] This application claims priority on the basis of United States Provisional Application No. 60/256,276, filed December 18, 2000.

FIELD OF THE INVENTION

[0002] The present invention relates to proteins that interact with  $\beta$ TrCP such as RasSF1, RasSF1A and RasSF1C and variants of RasSF1. More specifically, the present invention relates to complexes of polypeptides or polynucleotides encoding the polypeptides, fragments of the polypeptides, antibodies to the complexes, Selected Interacting Domains (SID®) which are identified due to the protein-protein interactions, methods for screening drugs for agents which modulate the interaction of proteins and pharmaceutical compositions that are capable of modulating the protein-protein interactions.

BACKGROUND AND PRIOR ART

[0003] Most biological processes involve specific protein-protein interactions. Protein-protein interactions enable two or more proteins to associate. A large number of non-covalent bonds form between the proteins when two protein surfaces are precisely matched. These bonds account for the specificity of recognition. Thus, protein-protein interactions are involved, for example, in the assembly of enzyme subunits, in antibody-antigen recognition, in the formation of biochemical complexes, in the correct folding of proteins, in the metabolism of proteins, in the transport of proteins, in the localization of proteins, in protein turnover, in first translation modifications, in the core structures of viruses and in signal transduction.

[0004] General methodologies to identify interacting proteins or to study these interactions have been developed. Among these methods are the two-hybrid system originally developed by Fields and co-workers and described, for example, in U.S. Patent Nos. 5,283,173, 5,468,614 and 5,667,973, which are hereby incorporated by reference.

[0005] The earliest and simplest two-hybrid system, which acted as basis for development of other versions, is an *in vivo* assay between two specifically

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